

**CONFERENCE OPINION
FOR THE
4W RANCH FLP CANDIDATE CONSERVATION
AGREEMENT WITH ASSURANCES**

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1. DESCRIPTION OF THE PROPOSED ACTION

The 4W Ranch, a 29,000-acre cattle ranch in southwestern Weston and northwestern Niobrara counties, Wyoming, has applied to the U.S. Fish and Wildlife Service (Service) for an enhancement of survival permit in accordance with section 10(a)(1)(A) of the Endangered Species Act of 1973, as amended (ESA), and the Service’s Candidate Conservation Agreements with Assurances Final Rule (64 Fed. Reg. 32726, June 17, 1999). Under the permit, the 4W Ranch will be authorized incidental take of black-tailed prairie dogs (*Cynomys leudovicianus*), mountain plovers (*Charadrius montanus*), burrowing owls (*Athene cunicularia*), and ferruginous hawks (*Buteo regalis*)[Covered Species] in the event any of these species becomes listed under the ESA. In addition, direct take of black-tailed prairie dogs will also be authorized under specific terms and conditions (see Section 6 of this document regarding the Incidental Take Statement). Any harm to an endangered species is a form of “take” and therefore, is prohibited under section 9 of the ESA, unless the “take” is covered under a section 10(a)(1)(A) permit. “Take” is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” As part of their permit application, the 4W Ranch proposes to enter into a Candidate Conservation Agreement with Assurances (Agreement). As part of the Agreement process, the Service is providing intra-agency consultation with a conference opinion under section 7 of the ESA.

Under the Agreement, the 4W Ranch would implement directed conservation measures, systematic monitoring, and annual reporting of activities related to Covered Species on 3,370 acres of the 4W Ranch (e.g., Talon Environmental 2007, 2008). Of the 3,370 acres, approximately 3,000 acres will be set aside as a “core management area” (CMA) to benefit the Covered Species (see Figure 1 of the Agreement). Management actions within the CMA will be designed to enhance populations and habitat for the black-tailed prairie dog, which will benefit the other Covered Species. Approximately 370 acres of the 3,370 Agreement acres will be managed to maintain ranch viability (e.g., hay meadows). Management intent on these 370 acres will be to prevent encroachment by the black-tailed prairie dog.

Also under the Agreement, the Service is providing the 4W Ranch with a section 10 permit authorizing incidental take of the Covered Species and direct take of the black-tailed prairie dog on the enrolled lands in the event that any of these species becomes listed under the ESA in the future as long as the conditions stated in the permit are met. Incidental take, under the permit, could result from the otherwise lawful activities that occur on the enrolled lands including crop cultivation and

harvesting, livestock grazing and production, farm equipment operation, and recreational activities (e.g., hiking, and use of recreational vehicles on and off established roads). Direct take of black-tailed prairie dogs would result from managed recreational shooting on the 3,000 acres within the CMA and lethal control on 370 acres of exclusion areas. The permit would include ESA regulatory assurances as discussed in the Service's Candidate Conservation Agreement with Assurances final policy. These ESA regulatory assurances would ensure that the 4W Ranch would not need to make additional changes in land use activities, beyond those identified in the Agreement, should the Covered Species become listed under the ESA.

Potential threats to the Covered Species in the Agreement include:

- *Black-Tailed Prairie Dog*: disease, eradication efforts, and habitat loss/degradation;
- *Mountain Plover*: conversion of grassland to cropland, changes in range management emphasizing uniform grass cover, declines in native ungulates and burrowing animals, and oil and gas development resulting in habitat fragmentation;
- *Burrowing Owl*: habitat loss and degradation due to a reduction of burrowing rodents; and
- *Ferruginous Hawk*: loss of habitat to cultivation, urbanization, grazing, control of small mammals, mining, and fire management.

Most of these potential threats currently occur throughout the range of these species.

The Agreement is intended to address threats through conservation efforts over a period of ten years on the 4W Ranch where the Covered Species occur, or may occur in the future. The Agreement should result in an increase in the long-term persistence and distribution of these species on the enrolled lands.

The Agreement contains two biological objectives intended to conserve the Covered Species: (1) at individual sites, implement population and habitat enhancement, rehabilitation, or protection measures, thereby increasing populations, and (2) within the CMA, create larger, interconnected areas, using native and desirable non-native vegetation, and other management measures, to rehabilitate or restore suitable habitats. The biological goal of the Agreement is to expand populations of the Covered Species across the 3,000 acres of the CMA.

These objectives, and this population-based goal, are the basis for conservation measures identified in the Agreement. Under the Agreement, the 4W Ranch would: 1) enhance, protect, or rehabilitate shrub/grassland habitats currently used by black-tailed prairie dogs, and 2) maintain black-tailed prairie dog populations at self-sustaining levels that in turn provide habitat for mountain plovers and burrowing owls, and serve as a forage resource for ferruginous hawks. These efforts are intended to provide for the conservation of these species in areas currently and historically occupied by the species. The Agreement's conservation goal will be met by giving the 4W Ranch incentives to implement conservation measures for these species through regulatory assurances concerning land use restrictions that might otherwise apply should these species become listed under the ESA.

Conservation measures under the Agreement include: 1) managing black-tailed prairie dogs to maintain a viable population; 2) enhancing habitat conditions, including promoting desirable vegetation and controlling undesirable vegetation; and 3) applying no disturbance zones with timing restrictions for nesting mountain plovers and ferruginous hawks. See Agreement for more in-depth discussion of conservation measures.

On the 3,000 acres of the CMA, habitat enhancements will improve vegetative type and coverage. Concurrently, the 4W Ranch will actively manage black-tailed prairie dog populations by authorizing recreational shooting where population thresholds are maintained (See Agreement, monitoring and reporting protocols). On the 370 acres of exclusion areas (e.g., hay meadows and important livestock forage areas), all legally approved control methods will be used to minimize the expansion of black-tailed prairie dogs should recreational shooting fail to limit their expansion.

Under the Agreement, an adaptive management component provides for modification of conservation measures that may be considered through coordination between the signatories of this Agreement and will be based on the results of annual monitoring and other information as it becomes available. If consensus on the proposed modifications cannot be reached, and the Service determines the existing measures will not meet the intended Agreement species conservation goal, the Service may immediately suspend the permit consistent with current regulations described in 50 CFR 13.27(a). Consistent with the Agreement, and as a condition of the permit, the 4W Ranch will notify the Service at least 48 hours prior to control efforts within the 370 acre designated black-tailed prairie dog exclusion area. This will provide the Service a reasonable opportunity to capture and translocate black-tailed prairie dogs that occupy an area where control would occur.

For purposes of this conference opinion, the action area (the area where direct and indirect effects of the proposed action would occur) is defined as approximately 3,370 acres of the 4W Ranch’s enrolled lands (see Figure 1 of the Agreement).

2. SPECIES STATUS AND ENVIRONMENTAL BASELINE

2.1 BLACK-TAILED PRAIRIE DOG (*Cynomys leudovicianus*)

2.1.1 Status

The black-tailed prairie dog became a candidate for listing in 2000. In August 2004, the Service determined the black-tailed prairie dog no longer warranted candidate status. However, the black-tailed prairie dog is classified as a sensitive species by both Region 2 of the U.S. Forest Service and the Wyoming State Office of the Bureau of Land Management (USFS 2005; Carroll, 2007, personal communication) and is still considered rare throughout its range. The Wyoming Game and Fish Department (WGFD 2006) identifies the black-tailed prairie dog on its list of Species of Greatest Conservation Need because populations have declined and its habitat is vulnerable. However, there is no identified ongoing significant habitat loss in Wyoming. The black-tailed prairie dog is designated as vulnerable by the Committee on the Status of Endangered Wildlife in Canada and threatened by the Lista de las Especies Amerzadas, the official threatened and endangered species list of the Mexican Government. In-depth information regarding the background and status of the black-tailed prairie dog is presented in the Service’s 12-month finding for the resubmitted petition to list the black-tailed prairie dog as threatened (69 FR 51217, August 18, 2004). Information provided below is primarily from the Service’s finding.

The black-tailed prairie dog is one of five species of prairie dog, all of which occur only in North America. It is a small rodent that exhibits a colonial lifestyle, living in burrow systems within generally large, dense colonies. This lifestyle may represent the most complex social organization of all rodents and likely offers an effective defense mechanism against predators and increases reproductive success, though facilitating aiding in the transmission of disease.

Black-tailed prairie dogs are associated with grasslands and shrub-grasslands and, in Wyoming, appear most abundant on shortgrass prairies. Habitat requirements include fairly flat or smooth terrain with gentle slopes and little rock in the soil.

Towns, or colonies, are loosely defined as aggregations of prairie dogs, while colonies are further organized into “coteries” made up of 2 to 40 members

(Hoogland 2006). Coterie members defend their group territory against intrusion by members of adjacent coterie. Biggins et al. (1993) define prairie dog complexes as prairie dog colonies within a 4.34 mile (7.0 km) radius of other prairie dog colonies. Typical dispersal between established colonies is 3 miles (4.8 km) or less. Black-tailed prairie dog densities vary depending upon season, region, and climatic conditions, but typically range from 2 to 18 individuals per acre (0.8 to 7.2 individuals per hectare).

Black-tailed prairie dogs are active above ground year round. Prairie dogs consume both grasses and forbs, and a majority of their diet may include plant species having value as livestock forage, such as western wheatgrass (*Pascopyrum smithii*), blue grama (*Bouteloua gracilis*), and needle-and-thread (*Stipa comata*). Utilization of vegetation by prairie dogs has been estimated at 18 to 37 percent, with most utilization affecting grasses and reaching as high as 80 percent by mid-August.

A female may produce up to 20 offspring during its lifetime, producing a single litter of 4 to 5 pups per year over a lifetime of 3 to 4 years. While not prolific in comparison to many other rodents, the species is capable of rapid population increases subsequent to substantial reductions.

The historic range of the black-tailed prairie dog included portions of 11 states, Canada, and Mexico. Today, the range occurs from extreme south-central Canada to northeastern Mexico and from approximately the 98th meridian west to the Rocky Mountains. The species is currently present in 10 states (Colorado, Kansas, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, and Wyoming), but has been extirpated from Arizona. Range contractions have occurred in the southwestern portion of the species' range in Arizona, western New Mexico, and western Texas; and in the eastern portion of the species' range in Kansas, Nebraska, Oklahoma, South Dakota and Texas. These range contractions are largely due to habitat loss through cropland development in the east (Luce 2003) and through conversion of grasslands to desert shrub lands in the southwest (Pidgeon et al. 2001).

The black-tailed prairie dog appears to be widely distributed throughout its historic range in Wyoming, generally in disconnected populations across the shortgrass prairie in the eastern half of the state. Luce (2003) estimated 125,000 acres (51,000 hectares) of black-tailed prairie dog occupied habitat statewide in 2003. More recent estimates by the Wyoming Game and Fish Department indicate 213,174 acres of black-tailed prairie dog colonies are present in Wyoming. Of that, 102,725 acres are part of black-tailed prairie dog colonies classified as healthy (>50% active; WGFD 2006). Sylvatic plague, caused by a

bacterium (*Yersinia pestis*), has resulted in notable declines in the State's largest identified complex at the Thunder Basin National Grassland adjacent to the 4W Ranch. The population on the Cheyenne River was first described in 1862.

2.1.1.1 The present or threatened destruction, modification, or curtailment of its habitat or range

Historically, as many as 100,000,000 acres of occupied black-tailed prairie dog habitat occurred across a landscape of approximately 400,000,000 acres of potential habitat, forming several large metapopulations in the United States. At present, there are an estimated 1,842,000 acres of occupied habitat in the western United States. Habitat loss resulted from cropland development, urbanization and changes in vegetative communities, burrow deterioration, and fragmentation. For example, in the United States approximately 37% of the suitable habitat within the range of the black-tailed prairie dog has been converted to cropland. However, the 2004 12-month finding noted that the current threat of habitat loss through cropland conversion is much less than in the early days of agricultural development in the Great Plains and that a considerable amount of potential unoccupied habitat remains.

When the amount of current occupied habitat is contrasted with the amount of remaining rangeland (potential habitat) it is evident that sufficient potential habitat still occurs in each of the 11 States within the historic range of the species to accommodate large expansions of black-tailed prairie dog populations. Therefore, the Service continues to support its previous conclusion that present or threatened habitat destruction is not a threat to the species, although considerable effects due to this factor have occurred in the past. Overall, recent state estimates illustrate far more occupied habitat than was previously assumed in the Service's 12-month finding. State agencies now estimate approximately 1,842,000 acres of habitat is occupied by black-tailed prairie dogs, as opposed to 768,000 occupied acres estimated in 2000 (USFWS 2000, 2004).

2.1.1.2 Overutilization for commercial, recreational, scientific, or educational purposes

Effects due to collecting for scientific or educational purposes and commercial use of the species via the pet trade are not threats to the species. The Service is aware that recreational shooting can reduce black-tailed prairie dog population densities at specific sites, and acknowledge the possibility that extirpation may have occurred in isolated circumstances, but interest in recreational shooting is generally not high where populations are at low levels. Black-tailed prairie dog populations can recover following intensive recreational shooting (Reeve and

Vosburgh 2006). Although recreational shooting has been implicated in affecting reproductive output in the short-term (Pauli and Buskirk 2007), there are no long-term studies to indicate that this factor significantly contributes to local population reduction. Therefore, the effects due to recreational shooting do not rise to the level of a threat pursuant to the definitions of the ESA. Statewide and range-wide population estimates further reinforce this conclusion, as occupied acreage of black-tailed prairie dogs appears to be stable (Luce 2003), even in states experiencing locally-significant shooting pressure.

2.1.1.3 Disease or predation

Although sylvatic plague, caused by the bacterium *Yersinia pestis* is likely the most important factor adversely influencing black-tailed prairie dog population dynamics, recent information indicates populations are responsive, re-populating plague-impacted colonies (Cully and Williams 2001). Cully and Williams (2001) indicate that: (1) high exposure doses of plague bacilli may be necessary for disease contraction in some individuals, (2) limited immune response has been observed in some individuals, (3) a population dynamic may have developed in low-density, isolated populations that contributes to the persistence of these populations, (4) the apparent ability of some sites to recover to pre-plague levels after a plague epizootic, and (5) approximately one-third of the species' historic range has not been affected by plague. However, information presented in the December 2, 2008 90-Day Findings (73FR73211) on black-tailed prairie dogs states that plague has become a more acute problem than previously thought, since South Dakota populations have now been impacted; this is the first time sylvatic plague has been confirmed in this state. On the 4W Ranch, data collected on prairie dog densities following a plague outbreak in 2001 indicates an initial recovery period of 2 to 3 years, then an exponential increase in prairie dog numbers (Talon Environmental 2007; Talon Environmental 2008). Consequently, local plague events appear to be highly variable.

The Service also concludes that effects on black-tailed prairie dog populations due to predation are not a threat to the persistence of the species. This conclusion is based on general information regarding predator-prey relationships, as well as specific examples of intensive raptor predation having no long-term effects on prairie dog populations (see discussion of predation on pages 61-62 of USFWS [2000] for additional information).

2.1.1.4 The inadequacy of existing regulatory mechanisms

There are many jurisdictional entities across the range of the black-tailed prairie dog and regulations could theoretically affect the status of the species. Before an

effect due to inadequate regulatory mechanisms can be considered a threat, the regulation or lack thereof must influence another factor considered a threat. For example, if recreational shooting is not considered a threat, regulations pertaining to recreational shooting cannot be considered a threat and there is no need to evaluate the adequacy of the regulations. However, the Service has evaluated the influences of existing regulations pertaining to recreational shooting, chemical control, and regulatory limitations that could preclude achieving management goals.

A variety of regulatory mechanisms remain in place regarding recreational shooting, depending on the political entity. In Canada, only private landowners are permitted to shoot prairie dogs and chemical control is prohibited. In Mexico, there is no shooting and little chemical control. Within the United States, several states manage shooting of prairie dogs. Some states have significant restrictions on shooting, such as Colorado, where the Division of Wildlife considers the black-tailed prairie dog a game species and the Colorado Division of Wildlife Commission prohibits sport hunting of the species year-round on public and private lands (USFWS 2004). However, landowners and their designated agents in Colorado are allowed to shoot prairie dogs causing property damage. Several states have no restrictions on shooting, but do require a license for all prairie dog shooters or for non-residents. Only Montana and Wyoming require no license for, and have no restrictions on, shooting of black-tailed prairie dogs. The Service concludes that recreational shooting is not a threat to the continued persistence of the black-tailed prairie dog as a species (see discussion of shooting in Section 4.1.3.2). Therefore, regulatory mechanisms relating to recreational shooting are not problematic for the persistence of the species.

Some large black-tailed prairie dog population complexes have been severely impacted by chemical control programs in the recent past and could be again in the future if adequate regulatory mechanisms are not adopted. There remains a general absence of efforts by either State or Federal agencies to better monitor chemical control.

The Service has concerns regarding inadequacy of regulatory mechanisms because of a lack of progress on statewide management plans by all the states within the range of the black-tailed prairie dog (73 FR 73211), particularly regarding poisoning. At present, it appears these concerns may represent a threat to the conservation of the species throughout its range. However, with the intensive management and monitoring requirements through the Agreement on the 4W Ranch, we have determined that regulatory mechanisms for the 4W are adequate.

2.1.1.5 Other natural or manmade factors affecting its continued existence

We consider chemical control of black-tailed prairie dogs and synergistic effects from all threats under this factor. Historically, chemical control of prairie dogs has been significant with more than 30,000,000 acres treated between 1937 and 1968. Since then, several effective toxicants used for prairie dog control were removed from the Market. Although prairie dog control has continued using other toxicants such as zinc phosphide, the success of control has been much less than historical efforts. Furthermore, site-specific and range-wide data indicate the species is resilient despite impacts from chemical control. However, in a recent 90-day petition finding (73 FR 73211), the Service found that the lack of regulation over the use of toxicants may threaten black-tailed prairie dog populations. However, with the intensive management specified in the Agreement for the 4W Ranch, the limited potential application of toxicants would not represent a threat to the viability of prairie dog populations.

2.2 MOUNTAIN PLOVER (*Charadrius montanus*)

2.2.1 Status

The mountain plover is a migratory species of the shortgrass prairie and shrub-steppe eco-regions of the West. On the breeding range, the plover historically occurred on nearly denuded prairie dog colonies and in areas of major bison concentrations where vegetation was clipped short. Mountain plovers are usually associated with sites that are modified by grazing and digging mammals, even on their wintering grounds. Breeding adults, nests, and chicks have been observed on cultivated lands in several states including Wyoming. The majority of mountain plovers winter in California, where they are found mostly on cultivated fields.

Nests are usually placed in areas where vegetation is less than 4 inches (10.2 cm) tall and the amount of bare ground exceeds 30 percent. Knopf (1996) noted that , vegetation associated with the nest sites in shortgrass prairie habitats included blue grama (*Bouteloua gracilis*), buffalo grass (*Buchloe dactyloides*), and prickly pear cactus (*Opuntia spp.*). Topography is typically flat or gently rolling (Parrish 1988). In areas where mountain plovers are associated with prairie dog colonies, size of the colony is important. In Montana, mountain plover densities were highest on colonies occupying 15-124 acres (6-50 ha), while colonies less than 25 acres (10 ha) were considered marginal habitat (Dechant et al. 1998).

Mountain plovers leave their wintering grounds in Mexico and Southern California by mid-February or March and arrive on the breeding grounds in Wyoming in March. They lay their eggs in June, and their young fledge by July of

the same year. Fledging rates appear low with 0.26 chicks per nesting attempt to 1.4 chicks per successful nesting attempt (Knopf 1996). Of these, only 0.17 to 0.74 chicks per nesting attempt live to migrate from the breeding grounds due to predation (Knopf 1996). The adults usually begin leaving for the wintering grounds in early August, arriving during mid-September to November. During migration, they can form flocks of hundreds of birds.

2.2.1.1 The present or threatened destruction, modification, or curtailment of its habitat or range

Historically, the conversion of grassland to cropland likely contributed to the decline of the mountain plover. However, the current threat of habitat loss through cropland conversion throughout the nesting range of the plover is much less than it was historically. Total lands converted to cropland are a small fraction of the total available rangeland. Additionally, mountain plovers nest successfully on croplands in Colorado and perhaps contiguous states. Livestock grazing occurs throughout the nesting habitat of the mountain plover and often favors uniform cover, unlike historical grazing regimes that provided a mosaic of grasses, forbs, and bare ground for the species. The historic decline in abundance and distribution of prairie dogs likely contributed to the historic decline of the mountain plover. The mountain plover remains closely tied to active prairie dog colonies in the Thunder Basin area of Wyoming. Prairie dog density and colony size appear important to plovers and nesting success seems higher on active prairie dog colonies than areas without prairie dogs. Although much of the natural habitat in the mountain plover's wintering range has been lost (largely in California), the habitat loss does not seem to have limited plover populations. Therefore, the Service has found that the current likelihood of habitat loss does not pose a significant threat to the mountain plover.

2.2.1.2 Overutilization for commercial, recreational, scientific, or educational purposes

There is no recent evidence that overutilization is a current threat.

2.2.1.3 Disease or predation

Disease-related factors are not known to be a direct threat to the species, although mountain plovers may be indirectly affected by habitat loss when sylvatic plague reduces numbers of prairie dogs in a colony. Predation influences the productivity of all ground-nesting birds, including the mountain plover. Mountain plover eggs and chicks are the most vulnerable to terrestrial and avian predation. Although nesting success may be affected locally in some years, it is not a persistent factor

throughout the species' range.

2.2.1.4 The inadequacy of existing regulatory mechanisms

The Migratory Bird Treaty Act (MBTA), 16 U.S.C. 703, protects the mountain plover from direct mortality or destruction of active nests. Additionally, the Bureau of Land Management and Forest Service have policies directing that their actions not contribute impact to a sensitive species such as the mountain plover. There are no State regulations mandating protection of the mountain plover on private lands, so most conservation actions on private lands are voluntary.

2.2.1.5 Other natural or manmade factors affecting its continued existence

Because mountain plovers congregate in large flocks on the wintering grounds, they may be more vulnerable to local catastrophic events there, although the likelihood of such an event is small. Control of grasshoppers and other pests on private lands may pose a threat to the mountain plover, although we do not believe that it is of a magnitude or immediacy that warrants listing the species. Additionally, mountain plovers may be exposed to pesticides and other chemicals while they occupy winter habitat in California. However, a review of exposure to various chemicals showed that concentrations were below thresholds known to cause population-level effects (68 FR 53083).

2.3 BURROWING OWL (*Athene cunicularia*)

2.3.1 Status

The burrowing owl is a small, ground-dwelling owl with long legs, a round head with an oval facial ruff, and no ear tufts (Haug et al. 1993). The species is semi-colonial and uses open, treeless areas for nesting. Because short vegetative structure is important in allowing for detection of predators, burrowing owls are commonly found in association with cattle, prairie dogs, and other grazers (McDonald et al. 2004).

The species often nests in prairie dog burrows, as well as burrows dug by other animals such as badgers or foxes. Burrowing owls will use active and relatively inactive prairie dog colonies, but have been shown to experience lower rates of nest depredation and have higher rates of nesting success on larger, dense prairie dog colonies (Dechant et al. 2001). In northeastern Colorado, density of burrowing owls was correlated with active burrow density. In 26 of 27 colonies occupied by burrowing owls, at least 50 percent of the prairie dog burrows were active (Klute et al. 2003). In southeastern Colorado, burrowing owls occupied

prairie dog colonies with 43 percent active burrows (Dechant et al. 1999). Habitat selection by burrowing owls was correlated with burrow length, high burrow density, low shrub cover, prairie dog activity, and closeness to water in the Thunder Basin (Lantz 2005).

Those burrowing owls that nest in Canada and the northern Great Plains typically leave their wintering grounds in March and April, arriving on the northern breeding grounds as late as May. Wyoming burrowing owls typically arrive on the breeding grounds in late April (McDonald et al. 2004). Burrowing owls begin laying eggs in late March in the southern part of the range (northern Arizona and New Mexico), and mid-May in the north (southern Canada). In the Thunder Basin, nest initiation dates are typically between April 15 and June 1 (Lantz 2005). They produce only one brood per season with 7 to 9 eggs in an average clutch and between 1.6 and 4.9 young fledged per nest attempt (Haug et al. 1993).

In Wyoming, an average of 3 young fledge per nest (McDonald et al. 2004). Northern birds leave for their wintering grounds by mid-October, while more southern birds remain year-round (Gillihan et al. 2001).

2.3.1.1 The present or threatened destruction, modification, or curtailment of its habitat or range

Habitat loss and degradation is the single most important threat to persistence, mostly due to declines in prairie dog colonies and to land conversion for urban and agricultural uses (McDonald et al. 2004). Elimination of burrowing rodents through control programs has been identified as the primary factor in the recent and historical decline of burrowing owl populations (Deschant et al. 2001, Klute et al. 2003, McDonald et al. 2004).

2.3.1.2 Overutilization for commercial, recreational, scientific, or educational purposes

Although burrowing owls have been trapped and sold in Mexico (Klute et al. 2003), there is no evidence that overutilization is a current threat.

2.3.1.3 Disease or predation

Loss to predation in fragmented and/or urban landscapes where edge-loving and domestic predator densities are high has been identified as a threat to burrowing owls (Klute et al. 2003, McDonald et al. 2004). Additionally, indirect effects of sylvatic plague on burrowing owls that use prairie dog colonies has the potential to significantly affect burrowing owls through loss of habitat and food sources (Klute et al. 2003, McDonald et al. 2004).

2.3.1.4 The inadequacy of existing regulatory mechanisms

The MBTA protects the burrowing owl from direct mortality or destruction of active nests. Additionally, the Bureau of Land Management and Forest Service have policies directing that their actions not contribute to the declining status of a species. There are no State regulations mandating protection of burrowing owls on private lands, so most conservation actions on private lands are voluntary. Burrowing owls are listed as endangered in Canada and threatened in Mexico.

2.3.1.5 Other natural or manmade factors affecting its continued existence

Insecticides and rodenticides can directly kill or reduce the growth and reproductive rates of owls in agricultural areas (Deschant et al. 2001, Klute et al. 2003, McDonald et al. 2004). Incidental shooting of burrowing owls as a byproduct of recreational shooting of prairie dogs has been documented, although it is not likely a significant threat (McDonald et al. 2004). Because burrowing owls do not appear to scavenge prairie dog carcasses, ingestion of lead fragments is not considered to be a threat to burrowing owls (Klute et al. 2003, McDonald et al. 2004). Collision with vehicles has been cited as a source of mortality, but the significance of this mortality remains unknown (Klute et al. 2003).

2.4 FERRUGINOUS HAWK (*Buteo regalis*)

2.4.1 Status

The ferruginous hawk is a large, broad-winged hawk of the western United States that nests in flat or rolling terrain in pinyon-juniper, shrublands, and grasslands, but rarely nests in forests. Landscapes with less than 50 percent coverage of cropland and hayland are used for nesting and foraging (Dechant et al. 1999). Ferruginous hawks use a variety of nesting substrates, most commonly trees and large shrubs, followed by cliffs, utility structures, dirt outcrops, and relatively flat ground (Olendorff 1993, Bechard and Schmutz 1995, Dechant et al. 2001). Historically, ground nesting was common (CEC 2005a). They typically build large nests of sticks, twigs and debris and often reuse nests for many years (Bechard and Schmutz 1995). In northeastern Wyoming, ferruginous hawks are opportunistic nesters, often selecting nest sites away from golden eagle nests (Phillips and Beske 1990). Fidelity to a territory and nest site re-occupancy is common for ferruginous hawks and territories often contain multiple alternate nests (Dechant et al. 1999).

Most breeding ferruginous hawks arrive in Wyoming in April and leave by September (Beauvais 2000b). Ferruginous hawks are easily disturbed during the

breeding season, particularly during the early stages of nesting, and sensitivity to disturbance may be heightened during years of low prey abundance (Dechant et al. 1999). Average annual clutch size of ferruginous hawks varies from 2 to 4 eggs, but can range from 1 to 8 depending upon prey abundance. The mean number of fledglings produced by a breeding pair each year ranges from 1.3 to 3.2 (Bechard and Schmutz 1995). Young typically leave the nest at 38 to 50 days of age, but remain dependent upon the parents for several weeks after fledging (Bechard and Schmutz 1995).

Ferruginous hawks eat primarily mammals, including rabbits (*Sylvilagus spp.*), ground squirrels (*Spermophilus spp.*), prairie dogs, and pocket gophers (*Geomys spp.*). Generally, to the east of the Continental Divide, they primary prey on prairie dogs and ground squirrels (Bechard and Schmutz 1995). In southern Wyoming, MacLaren et al. (1988) found ferruginous hawks had the most diverse diet when compared to prairie falcons (*Falco mexicanus*), golden eagles (*Aquila chrysaetos*), and red tailed hawks (*Buteo jamaicensis*). Ferruginous hawks took 37 percent ground squirrels, 22 percent prairie dogs, and 20 percent leporids. However, leporids actually contributed 48 percent of the biomass consumed as compared to 22 percent from prairie dogs and 16 percent from ground squirrels. Although ferruginous hawks may shift to other prey when their principal prey species declines, productivity is affected by densities of major prey species (Olendorff 1993).

2.4.1.1 The present or threatened destruction, modification, or curtailment of its habitat or range

Population declines have been attributed to loss of habitat to cultivation, urbanization, grazing, control of small mammals, mining, and fire management, with cultivation the most significant (Olendorff 1993, Bechard and Schmutz 1995, Dechant et al. 1999). Several of the habitat effects are related to prey availability. For example, cultivation leads to replacement of short grasses by taller crops that conceal prey items more effectively. Additionally, nest tree availability is adversely affected by cultivation and some grazing regimes. Olendorff (1993) asserted that grazing with improper stocking levels could also lead to adverse effects to prey items. However in the Thunder Basin, grazing benefits ferruginous hawks by reducing vegetative cover and making prey more visible (Kantrud and Kologiski 1983, Konrad and Gilmer 1986 as cited in USFS [2001]).

2.4.1.2 Overutilization for commercial, recreational, scientific, or educational purposes

There is no evidence that overutilization is a factor affecting the species. Eggs

were once valuable to collectors, but most collecting occurred during the early 1900s, was not likely a key factor in declines, and no longer appears to be a threat (Bechard and Schmutz 1995). Collection for use in falconry is not a threat as ferruginous hawks are rarely used in falconry (CEC 2005b).

2.4.1.3 Disease or predation

There is no indication that disease is a factor affecting this species. There are few documented instances of nest predation, although ground predators (such as coyotes and badgers) may pose a threat to ground-nesting ferruginous hawks (Bechard and Schmutz 1995).

2.4.1.4 The inadequacy of existing regulatory mechanisms

The MBTA protects the ferruginous hawk from direct mortality or destruction of active nests. Typically Federal agencies provide some level of protection or special management to the ferruginous hawk because of its status as a raptor. Additionally, the U.S. Forest Service and Bureau of Land Management consider effects of their actions on the ferruginous hawk because of its designation as a sensitive species. In Canada, the ferruginous hawk was designated as threatened in 1980 and downgraded to vulnerable in 1995 by the Committee on the Status of Endangered Wildlife in Canada, Environment Canada.

2.4.1.5 Other natural or manmade factors affecting its continued existence

Poisoning and control of prey items (including prairie dogs) can produce local food shortages leading to interruptions in breeding, decreased productivity, and increased susceptibility of breeding ferruginous hawks to human disturbance (Olendorff 1993). Although chemical control of prairie dogs may be used on the 370 acres, there is little potential for secondary avian exposure because animals succumbing to these poisons die underground or because the label and application requirements require the applicator to address this risk. Disturbance, such as that associated with mining, near nest sites can result in nest abandonment (Olendorff 1993, Bechard and Schmutz 1995). Bechard and Schmutz (1995) and Olendorff (1993) report reduced productivity of nests near active oil and gas wells, although Dechant et al. (1999) cite a study from Montana that reported no negative impacts on productivity as a result of petroleum development. Collisions with power lines and electrocutions result in occasional mortality of ferruginous hawks, but do not appear to pose a significant threat to the population (Olendorff 1993, Bechard and Schmutz 1995).

A recent study of lead shot retention in recreationally shot prairie dogs in the Thunder Basin found that 87 percent of prairie dogs shot with soft point (expanding) bullets contained detectable amounts of bullet fragments (Pauli and Buskirk 2007). Although the estimates were variable, on average, 228 mg of the lead bullet core remained in the carcass. Seventy-three percent of the lead fragments in the carcasses were small, each weighing less than 25 mg, which have potentially important implications for lead assimilation in secondary consumers, such as ferruginous hawks.

To address the potential risks of lead ingestion, a risk assessment was performed, which considered a worst case scenario. The assessment concluded that lead ingestion poses a potential threat to ferruginous hawks. However, the assessment did not consider several factors, including: the availability of other food sources (e.g., cottontail and jack rabbits), competition from other scavengers for shot prairie dogs, and the amount of shot prairie dogs consumed. See Section 7.4 of the Agreement for further details on the analysis (Pages 32-36).

Predator-prey interactions often result in predators expending the least amount of effort for the maximum amount of forage (e.g., large prey such as lagomorph versus small prey such as prairie dogs). Olendorff (1993) reported that while the frequency of consumption of prairie dogs and ground squirrels is over 44%, the actual biomass consumed by ferruginous hawks is greater than 65% lagomorph. Considering the diversity and availability of prey items in this area, the large areas the hawks cover in their home ranges, the actual risk from lead ingestion and poisoning is likely minimal. However, the 4W Ranch landowners have anticipated that lead may pose a potential threat to wildlife and have agreed to adopt the use of nontoxic (e.g., copper) or non-expanding bullets for recreational shooters, avoiding the potential for lead assimilation.

3. ENVIRONMENTAL BASELINE

3.1 BLACK-TAILED PRAIRIE DOG (*Cynomys leudovicianus*)

The historic range of the black-tailed prairie dog included portions of 11 states, Canada, and Mexico. Today, the range occurs from extreme south-central Canada to northeastern Mexico and from approximately the 98th meridian west to the Rocky Mountains. The species is currently present in 10 states (Colorado, Kansas, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, and Wyoming), but has been extirpated from Arizona. Range contractions have occurred in the southwestern portion of the species' range in Arizona, western New Mexico, and western Texas; and in the eastern portion of

the species' range in Kansas, Nebraska, Oklahoma, South Dakota and Texas. These range contractions are largely due to habitat loss through cropland development in the east (Luce 2003) and through conversion of grasslands to desert shrub lands in the southwest (Pidgeon et al. 2001).

The black-tailed prairie dog appears to be widely distributed throughout its historic range in Wyoming, generally in disconnected populations across the shortgrass prairie in the eastern half of the state. Luce (2003) estimated 125,000 acres (51,000 hectares) of black-tailed prairie dog occupied habitat statewide in 2003. More recent estimates by the Wyoming Game and Fish Department indicate 213,174 acres of black-tailed prairie dog colonies are present in Wyoming. Of that, 102,725 acres are part of black-tailed prairie dog colonies classified as healthy (>50% active; WGFD 2006). Sylvatic plague has resulted in notable declines in the State's largest identified complex at the Thunder Basin National Grassland adjacent to the 4W Ranch.

The population of this species within the boundary of the 4W Ranch has been estimated to number as high as 60,000. Compared to the unmanaged colonies on the nearby Thunder Basin National Grasslands, casual observation indicates colonies on the 4W Ranch have more prairie dogs and are expanding. The majority of the population occurs on the flats on the south side of the Cheyenne River. Since 1996, there was noticeable encroachment of new prairie dog colonies southward and up the slopes towards the rugged breaks approximately two to four miles south of the river. Movement was also occurring to the north side of the river. This expansion was taking prairie dogs into the riparian zone and associated hay fields.

The area along the Cheyenne River is different in many ways than other expansive prairie dog complexes, such as Custer State Park in South Dakota or Devil's Tower National Monument, where more precipitation occurs on an annual basis. In addition to difference in climatic conditions, soil and vegetation types shape prairie dog habitat. This requires careful monitoring and management of ranch operations. For example, the ground on the ranch can become very barren in August and September when prairie dogs consume much of the vegetation, and due to drought, colonies can be denuded of all grasses across many acres. When this occurs, prairie dogs begin digging and consuming the roots of the grasses, thus reducing the ability of the grasses to grow the following spring, which impacts not only the colonies themselves, but the economic viability of the ranch.

In the past, plague has caused a reduction in the black-tailed prairie dog population on the 4W Ranch. During August and September of 2001, it became evident that a plague outbreak was occurring on the ranch. Populations decreased

immediately following the outbreak, but rebounded dramatically by 2004. In 2005, burrow density monitoring indicated that population thresholds were being exceeded in some management areas, so recreational shooting was implemented on a limited basis. Plague struck again during the late summer of 2006, driving the number of prairie dogs below the 2002 post-plague estimates, and all recreational shooting was suspended, pending a return of the population to threshold levels.

The Service authorized through the 10(a)(1)(A) permit the direct take of black-tailed prairie dog on (1) on the 3,000 acres of the 4W Ranch's enrolled lands as a result of recreational shooting, and (2) on the 370 acres of exclusion area of the 4W Ranch's enrolled lands as a result of legally-approved control efforts. Prior to the 2001 plague outbreak, the harvest of prairie dogs has been approximately 2,730 animals per year (Talon Environmental 2007). This estimate is based on a shooting season of approximately 14 weeks with 30 shooter-days per week (groups of 6 shooters for 5 days) and shooter success of 6.5 prairie dogs taken/day/shooter. However, because there is considerable variability over time in rodent populations, an adaptive, outcome-based approach (Walters 1986) will be used for determining direct take. Such an adaptive approach for allowing direct take of prairie dogs explicitly recognizes that multiple (e.g., environmental conditions, biological processes) will affect the prairie dog populations on the 3,000 acres of the CMA. Furthermore, the consequences of establishing a specific management level of take cannot be predicted with certainty, and therefore the Agreement provides a framework for making objective decisions in the face of that uncertainty. Thus, adaptive management relies on an iterative cycle of monitoring, assessment, and decision making to characterize the relationships between prairie dog abundance and anticipated or managed extent of take. Population management of the prairie dog for each succeeding year will involve an iterative process:

- (1) The density of active burrows will be evaluated within each of 19 management areas (MAs) across the CMA. Analysis will include the current and previous years within MAs in conjunction with the latest data on spatial occupancy within all MAs across the CMA. (MAs refer to individual areas managed by the 4W Ranch during recreational shooting; see the Agreement for more information).
- (2) Harvest from previous years will be evaluated to determine the degree to which the level of direct take authorized was successful in achieving the management goals. The methodology used to determine the annual allowable take will be revised to reflect the degree of success of achieving these goals.

(3) An explicit management goal for the next year will be established for each MA. For any harvest (take) to begin, any one of the following may be considered a reason to initiate population control (take) in any individual MA: (a) the threshold active burrow density has been met in an individual MA, (b) habitat deterioration has started i.e., over grazing and denuding of the rangeland by the prairie dog, or (c) there is the need to keep the population from expanding outside of a MA and /or the CMA onto neighboring private lands.

(4) The level of authorized population control (managed take) will be set based on the explicit management goals for each MA. In cooperation with the 4W Ranch, after reviewing current monitoring data and prior to any shooting, the Service will consult and coordinate with the 4W Ranch, specifying what managed take will be approved for the next year within any MA of the CMA.

(5) The number of animals taken will be monitored during the shooting season. These parameters are required by the monitoring protocols (see Section 12. Biological Monitoring) and will be used in addition to density estimates to assist in reaching population management goals.

(6) Annual monitoring results will be used to determine if the extent of areas occupied within the CMA are expanding or contracting, and will assist in determining which level of take is authorized for the following year. This adaptive approach will be used to incorporate new information generated by a comparison of population goals, monitoring of harvest levels (allowable take), and observed population trends.

Portions of Unk's pasture, the East Meadow, the Runway Meadow and Cottonwood pastures are used for production of hay, and also provide important forage for livestock (see Figure 1 of the Agreement). Although unlikely, if management methods fail to confine prairie dog populations within the CMA, we assume they would move into these acreages and could potentially achieve a density of up to 6 prairie dogs per acre (two times the expected density on the majority of the ranch) due to the increased amount of forage in these areas. Therefore, we could expect an annual direct take *of up to* 6 prairie dogs per acre on 370 acres (2,220 prairie dogs) from removal efforts, if control programs fail to confine them to the CMA.

3.2 MOUNTAIN PLOVER (*Charadrius montanus*)

Mountain plovers nest in the Rocky Mountains and Great Plains States from Montana south to Nuevo Leon, Mexico. Most breed in Montana, Wyoming, and Colorado. In Wyoming, breeding mountain plovers are known or suspected across the State, with nesting documented in the Thunder Basin in most years

during surveys conducted between 1992 and 2002. The Breeding Bird Survey (BBS) did not detect a trend for the mountain plover in Wyoming during 1966-2002; however, these data are uncertain given weaknesses in the BBS in monitoring species that occur at low densities, such as the mountain plover (WGFD 2006). The majority of mountain plovers winter in California, although there are some reports of wintering birds in Arizona, Texas, and Mexico.

Mountain plovers have been observed summering and nesting on the 4W Ranch. Although breeding habitat range-wide may have experienced a decline, habitat for these birds is likely not limiting on the ranch, as long as prairie dog habitat can be conserved. Since 1999, data on the mountain plover have been gathered to assess the resident population and its distribution within the boundaries of the ranch. Previous to the 2001 baseline data collections, two to five sightings a year had been reported, with some years recording zero observations. These reports corroborated other anecdotal observations that plovers were widespread across the ranch's prairie dog colonies. Mountain plovers are generally observed from May through June, with 34, 76, and 36 birds observed in 1999, 2000, and 2001, respectively. During 2001, one pair of nesting plovers raised young; however, none have been observed since, likely due to lack of prairie dog activity since the outbreak of sylvatic plague. Monitoring efforts remain on-going.

3.3 BURROWING OWL (*Athene cunicularia*)

The historical breeding range of the burrowing owl includes portions of southwestern Canada south through the non-forested portions of the western United States (as far east as western Minnesota) and south into central Mexico. The breeding range has contracted primarily on the eastern and northern edges, particularly in Manitoba, North and South Dakota, Nebraska, Kansas, Oklahoma, and Texas. Burrowing owls generally winter from Mexico to El Salvador, but have been noted in lesser abundance in Arizona, California, Kansas, New Mexico, Oklahoma, Oregon, and Texas. Wyoming forms part of the core of the burrowing owl's breeding range, with owls widespread in grassland and shrub-steppe habitats and often associated with prairie dog colonies (Beauvais 2000a). In Wyoming, burrowing owls are at highest concentrations in the south and east, although the species has been documented throughout the state (WGFD 2006). However, the Thunder Basin National Grasslands had a relatively low percentage of black-tailed prairie dog colonies occupied by burrowing owls during surveys conducted during 1998, with only 16 percent occupied as compared to 55 percent occupied across all national grasslands included in the study (Sidle et al. 2001). The Breeding Bird Survey detected significant declines of burrowing owls in Wyoming during 1966-2002; however, these data are uncertain given weaknesses

in the BBS in monitoring species that occur at low densities, such as the burrowing owl (WGFD 2006).

Burrowing owls summer and nest on the 4W Ranch. While burrowing owls are only occasionally observed, they are widely dispersed across the ranch. In 1999, there were 12 birds observed from June through August, with 15 sightings in 2000, while only 1 sighting was reported during 2001. High densities of burrowing owls are not expected on the ranch, as the density of active prairie dog burrows has always been at the low end of the range favorable to burrowing owls. Suitability of areas impacted by sylvatic plague, as in the outbreak in 2001, are likely to be further reduced following prairie dog declines.

3.4 FERRUGINOUS HAWK (*Buteo regalis*)

The ferruginous hawk is a common summer resident in Wyoming. Although the ferruginous hawk is known to nest in the Thunder Basin, the majority of nest sites are located in southern Wyoming, particularly in Carbon and Sweetwater counties (WGFD 2006). During a 1992 survey of the vicinity of Thunder Basin National Grasslands, 294 ferruginous hawk nests were located and mapped representing 184 potential territories, 52 of which were occupied (Beske 1992). Of the 294 nests, 33 were active and 26 were successful in raising a total of 64 young (Beske 1992). Based on the 1992 survey, the 2 active nests closest to the 4W Ranch prairie dog colonies were more than 10 miles away (see Appendix B in Beske 1992). While there are no known nests on the 4W Ranch, observations of the ferruginous hawk have increased in the ranch area over the last decade (Talon Environmental 2007, 2008).

Habitat and food are not currently limiting for ferruginous hawks on the 4W Ranch. Ferruginous hawks are observed daily soaring over much of the 4W Ranch, both over the prairie dog colonies and other areas of the ranch with no prairie dogs. Since the hatching of ferruginous hawk chicks coincides with the emergence of the young prairie dog pups, which are a primary prey item fed to newborn chicks, the adult birds spend more of their foraging time in the prairie dog management areas. Although suitable nesting habitat occurs on the ranch (trees in riparian areas and rock outcroppings), an intensive survey for raptors has yielded no evidence of ferruginous hawk nesting. Artificial nesting structures have been provided since 1997, but remain unused. Those ferruginous hawks seen foraging in prairie dog colonies and other areas of the ranch likely do not forage exclusively on the 4W Ranch, but rather also forage in other portions of their home ranges.

4. EFFECTS OF THE ACTION

This section discusses the direct and indirect effects of implementing this Agreement. In general, beneficial direct and indirect effects from the proposed action would occur from the various conservation commitments under the Agreement; however, some adverse direct effects could occur specifically to black-tailed prairie dogs from recreational shooting.

The Agreement is intended to promote conservation efforts in the context of ranching operations that will result in habitat improvement and long-term viability of the Covered Species on lands covered by the Agreement. Conservation benefits from implementation of the Agreement are expected in the form of enhancement of the Covered Species' habitat and populations, and expansion of these species within the CMA. This is intended to contribute to sustained viable populations of the species over the 4W Ranch's enrolled lands.

Activities conducted within the parameters of this Agreement and the implementation of conservation measures are expected to result in the long-term benefit to these species through the increase and/or maintenance of suitable habitat. Implementation of the Agreement is expected to result in populations of the Covered Species that utilize and/or occupy the CMA where they do not currently occur. Should any of these species become listed under the ESA this Agreement provides regulatory assurance to the 4W Ranch so that ranching operations can continue within the parameters of the Agreement resulting in enhanced and continued conservation efforts.

When populations exceed specific thresholds, direct adverse effects would occur to the black-tailed prairie dog population as a result of authorized and managed recreational shooting, and possibly as a result of lethal control efforts on the 370 acres of exclusion areas should recreational shooting fail to limit their expansion. Direct adverse effects to the mountain plover, burrowing owl, or ferruginous hawk would be unlikely. The permit would cover some level of incidental take of these species based upon measures in the Agreement and only in the event that they become listed. Incidental take for the mountain plover, burrowing owl, or ferruginous hawk would be authorized only over the 3,000 acres of CMA enrolled lands; however, incidental and direct take for the black-tailed prairie dog will be extended for the entire 3,370 acres. Should any of these species be listed under the ESA, the 4W Ranch would be authorized for incidental take from their otherwise lawful activities (e.g., crop cultivation and harvesting, livestock grazing and production, farm equipment operation, and recreational activities).

It is important to note that while incidental take may be extended to cover migratory birds (in the Agreement, mountain plover, burrowing owl, and ferruginous hawk are provided protection under the Migratory Bird Treaty Act (16 U.S.C. 703) (MBTA) in

the event any of these species is listed under the ESA, the MBTA has no specific provision for incidental take. Therefore, there is no coverage for incidental take of any of these species unless they become listed under the ESA.

No activities or other actions are known to be interrelated or interdependent to the proposed action. Although the Service has determined in the past the benefits of excluding areas covered under existing section 10 permits may be greater than including those areas within CH designation. Because of the measures in the Agreement, critical habitat would remain functional to serve its intended conservation role for the species. Also, because Agreements are based on voluntary, proactive conservation management principles, it is unlikely that the conservation measures will result in an adverse modification of critical habitat.

5. CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area considered in this conference opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the ESA.

In general, land use activities, including agricultural activities, on non-Federal lands are expected to continue. Since current land-use activities are expected to continue for lands not enrolled under the Agreement, most of the threats to the black-tailed prairie dog, mountain plover, burrowing owl, and ferruginous hawk would also continue, including those related to habitat degradation. Lands that are not enrolled under the Agreement would likely remain similar to their current habitat condition. For these areas, these species would likely be maintained in low numbers at scattered, isolated sites, similar to current conditions. If other landowners work cooperatively to develop and implement similar conservation measures as those proposed under the Agreement, threats to these species would be further reduced. Any such projects would undergo separate section 7 consultation.

6. CONCLUSION

After reviewing the current status of the Covered Species, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's conference opinion that approving the Agreement and issuing the permit, as proposed, is not likely to jeopardize the continued existence of the black-tailed prairie dog, mountain plover, burrowing owl, and ferruginous hawk. No critical habitat has been proposed for these species; therefore, none will

be affected.

Approval of the Agreement, including issuance of the section 10(a)(1)(A) permit will reduce multiple threats to the Covered Species, maintain viability on currently occupied areas, and restore these species to formerly occupied habitat on the enrolled lands. Specifically, conservation measures under the Agreement will provide monitoring and management of species' populations and their habitats and will facilitate collaborative management with the 4W Ranch which controls a substantial number of acres of suitable black-tailed prairie dog habitat. As a result, the Agreement is expected to result in the successful long-term conservation of not only the black-tailed prairie dog, but species that are interdependent on it and associated habitats, including the mountain plover, burrowing owl, and ferruginous hawk. Although incidental take will be authorized under the permit for the 4W Ranch if any of these species becomes listed, the Agreement's conservation goal is expected to be met. Take of black-tailed prairie dogs will be predicated on populations of the species exceeding a pre-set threshold based on biology, regular systematic monitoring, and controlling population expansion within pre-defined exclusion areas. The black-tailed prairie dog population will be allowed to expand within the 3,000 acres of the enrolled CMA. For mountain plover, burrowing owl, and ferruginous hawk, incidental take is highly unlikely to occur; however, in the rare case that it does it will likely occur sporadically geographically and temporally and is not expected to nullify the overall habitat and other conservation benefits expected to accrue under the Agreement. Without approval of the Agreement, habitat and species' benefits may not occur and more importantly, the cooperation of the landowner in conserving species of concern would definitely not occur.

7. REASONABLE AND PRUDENT MEASURES AND TERMS AND CONDITIONS

All conservation measures including restoration and enhancement of Covered Species habitats, status surveys, biological and compliance monitoring, and reporting measures provided in the Agreement for are incorporated herein by reference as reasonable and prudent measures and terms and conditions to address the incidental take of the Covered Species. No additional reasonable and prudent measures were identified during the conference. Annual reporting requirements are detailed in the Agreement and the report is due on December 31st of each year. As long as those reporting requirements are met, the requirements of this incidental take statement will be met, which will take effect upon the listing of any of the Covered Species.

The Agreement and its associated documents clearly identify anticipated impacts to the Covered Species likely to result from the proposed taking and the measures that are necessary and appropriate to minimize those impacts. These measures will be documented and together with the terms and conditions described in the section 10(a)(1)(A) permit, issued with respect to the proposed Agreement, are hereby incorporated by reference as reasonable and prudent measures and terms and conditions within the incidental take statement pursuant to 50 CFR 402.14(I). Such terms and conditions are non-discretionary and must be undertaken for the exemptions under section 10(a)(1)(A) of the Act to apply. If the permittee fails to adhere to these terms and conditions, the protective coverage of the section 10(a)(1)(A) permit may lapse.

The incidental take coverage covered by the Agreement and the section 10(a)(1)(A) permit, will become effective upon the listing of the Covered Species as threatened or endangered under the Act.

8. INCIDENTAL TAKE STATEMENT

8.1 Background

Section 9 of the ESA and Federal regulations pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of Section 7(b)(4) and Section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the ESA provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The prohibitions against taking the species found in section 9 of the ESA do not apply until the species is listed. However, the Service will implement the following reasonable and prudent measures even though the black-tailed prairie dog, mountain plover, burrowing owl, and ferruginous hawk are not currently listed under the ESA. The Agreement identifies anticipated impacts to the black-tailed prairie dog, mountain plover, burrowing owl, and ferruginous hawk likely to result from the proposed taking and the measures that are necessary and

appropriate to minimize those impacts. All conservation measures described in the Agreement, together with the terms and conditions described in any section 10(a)(1)(A) permit issued with respect to the Agreement, are hereby incorporated by reference as reasonable and prudent measures and terms and conditions within this Incidental Take Statement pursuant to 50 CFR 402.14(I). Such terms and conditions are non-discretionary and must be undertaken for the exemptions under section 10(a)(1)(A) and section 7(o)(2) of the ESA to apply. If the 4W Ranch fails to adhere to these terms and conditions, the protective coverage of the section 10(a)(1)(A) permit and section 7(o)(2) may lapse. The amount or extent of incidental take anticipated under the Agreement, associated reporting requirements, and provisions for disposition of dead or injured animals are as described in the section 10(a)(1)(A) permit.

8.2 Amount or Extent of Take

Based on the Agreement and on the analysis of effects of the proposed action provided above, the Service authorizes incidental take of 30 black-tailed prairie dogs (~1 BTPD/10 acres of activity) on the 3,370 acres of the 4W Ranch's enrolled lands as a result of agricultural-related activities including crop cultivation and harvesting, livestock grazing and production, and farm equipment operation.

Incidental take for the mountain plover, burrowing owl, and ferruginous hawk are unlikely. However, it is possible that there may be take of up to one mountain plover, one burrowing owl, and one ferruginous hawk per year from ordinary ranch activities, but not from authorized shooting. We further do not expect take due to secondary poisoning from lead on the 4W Ranch due to the phase out of lead ammunition. The 4W Ranch has in place an education program to inform their clients as to the description of each species, their habitats and where they are expected to be seen. Black-tailed prairie dog surveys within the CMA have been conducted annually since 2001, from July through September. None of the surveys have ever documented any dead birds or evidence (e.g., body parts, feathers) of mountain plovers, burrowing owls, and ferruginous hawks. In addition, protective measures are in place through the Agreement that place a "no disturbance" zone around any mountain plover or ferruginous hawk nest, including timing restrictions. With these protective measures in place, it is unlikely there will be any accidental take from recreational shooting.

8.3 Effect of the Take

In the accompanying conference opinion, the Service determined that this level of anticipated take of the Covered Species is not likely to result in jeopardy to these

species.

9. CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

The Service recommendations are as follows:

1. Work with other non-Federal landowners to enhance black-tailed prairie dog, mountain plover, burrowing owl, and ferruginous hawk habitat throughout the range of these species; and
2. Work with the Federal Agencies to expand the CMA onto Federal properties via a Candidate Conservation Agreement.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

10. REINITIATION NOTICE

This concludes the conference opinion for approval of the Agreement and issuance of the section 10(a)(1)(A) permit, the action outlined in the request. A written request may be made to confirm this conference opinion as a biological opinion issued through formal consultation if either the black-tailed prairie dog, mountain plover, burrowing owl, or ferruginous hawk are listed, or critical habitat is designated. If the Service reviews the proposed action and finds that there have been no significant changes in the action as planned or in the information used during the conference, the Service will confirm the conference opinion as the biological opinion on the project and no further section 7 consultation will be necessary.

After the listing, should it occur, of any of the Covered Species as endangered/threatened and/or a designation of critical habitat is made, for any subsequent adoption of this conference opinion, the Federal agency shall request re-initiation of consultation if: (1) the amount or extent of incidental take is

exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action.

The incidental take statement provided in this conference opinion does not become effective until/if the species is listed and the conference opinion is adopted as the biological opinion issued through formal consultation. At that time, the project will be reviewed to determine whether any take of the black-tailed prairie dog, mountain plover, burrowing owl, and ferruginous hawk has occurred. Modifications of the opinion and incidental take statement may be appropriate to reflect that take. Since formal “take” cannot occur unless the species is listed, no take of the black-tailed prairie dog, mountain plover, burrowing owl, and ferruginous hawk may occur between the listing of any of the species and the adoption of the conference opinion through formal consultation, or the completion of a subsequent formal consultation.

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